

CLAIMS

What is claimed is:

1. A Device adapted for the magnetic attraction of particles in a cell culture comprising a cell culture vessel and a magnet or a magnetizable element, wherein said magnet is positioned so as to allow a magnetic field emanating therefrom to pass through said culture vessel.
2. The device of claim 1, wherein said magnetic or magnetizable element is an electromagnet.
3. The device of claim 1, wherein said culture vessel is adapted for the culture of human cells.
4. The device of claim 1, wherein said human cells are lymphocytes.
5. The device of claim 1, wherein said magnet or magnetizable element is incorporated within a wall of said culture vessel.
6. The device of claim 1, wherein said magnet or magnetizable element is within the body of the vessel.
7. The device of claim 1, wherein said culture vessel is flask or a bag.
8. A method for inducing aggregation of cells or cell surface markers comprising providing a population of cells having a target cell surface molecule and a device of claim 1, wherein said cells are contained within said culture vessel; said culture vessel contains a

solid surface having attached thereto a ligand for at least one target cell surface molecule; and applying a magnetic field through said magnet or magnetizable element of said device.

9. The method of claim 8, wherein said aggregation induces target cell signal transduction.

10. The method of claim 8, wherein said solid surface is selected from the group consisting of a plate, a bag, a dish, a rod, a pellet, a fiber, a microsphere, and a bead.

11. The method of claim 10, wherein said solid surface is a bead or a microsphere.

12. The method of claim 10, wherein said solid surface is paramagnetic.

13. The method of claim 8, wherein said cell population comprises lymphocytes.

14. The method of claim 8, wherein said ligand is selected from the group consisting of an antibody, a natural ligand, and a synthetic ligand.

15. The method of claim 8, wherein said ligand comprises an antibody, a peptide, a polypeptide, a growth factor, a cytokine, or a chemokine.

16. The method of claim 8, wherein said receptor binding leads to downregulation or suppression of a cellular event.

17. The method of claim 8, wherein said receptor binding leads to upregulation or activation of a cellular event.